

CHARGE NUMBER: 1708
PROJECT TITLE: Physical and Chemical Properties of Tobacco
PERIOD COVERED: October 1-31, 1985
PROJECT LEADER: H. A. Hartung
DATE OF REPORT October 31, 1985

I. Effects of Additives and Environment on Tobacco

Objective: To define the physical properties of tobacco beds as a function of moisture, temperature and additives.

Status: Fifteen different tobaccos and sheet materials with various additives have been put into a test program. CV/OV testing is being done directly in a chamber at extreme conditions of temperature and humidity. Tests have been done at 110°F at RH levels of 10 and 90%.

Plans: Test at 40°F at the extremes of RH possible with the PGC chamber.

II. Mechanical Properties of Treated Papers

Objective: To characterize experimental paper treatments intended to improve the filling power of sheet materials.

Status: The new "IMass Dynastat" Testing Machine was put into service, calibrated and checked. It worked well with experimental papers submitted by Peter Martin. Sample preparation has become the most tedious aspect of this work. Creep compliance and low speed dynamic testing has proceeded very smoothly.

Plans: Review paper data with Peter Martin. Begin testing of RL and tobacco lamina.

III. New Plasticizers and Humectants

Objective: To unearth new materials for screening as plasticizers and humectants for smoking products.

Status: A broad literature search was run and hundreds of references were reviewed. About two dozen candidates for future screening were identified.

Plans: Complete search and review steps. Begin more detailed study of literature on candidates identified in preliminary reviews.

IV. Reports:

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- (1) M.E. Counts and L.M. Trentham, "RL and RCB Impact Degradation," memo to Bob Rogers and Ron Ellis, September 11, 1985.

- (2) J.C. Crump and H.A. Hartung, "Moisture Sorption Properties of Marlboro Pack Components," Special Report 85-203, September 23, 1985.
- (3) J.C. Crump and H.A. Hartung, "Application of a Theoretical Model to Moisture Sorption of Tobacco," paper given at Tobacco Chemists Research Conference, Montreal, October 4, 1985.
- (4) M.E. Counts, K.A. Cox, B.C. LaRoy and P. Martin, "Pressure vs Volume Properties of Tobacco Networks," talk at Philip Morris Science Symposium, October 18, 1985.

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